Ontario Hydro Electric Power Commission 1922-1924

J. ALLAN ROSS
Commissioner

Miscellaneous documents

INTERVIEW WITH

MESSRS. HALL AND DOBSON

of

THE HYDRO-ELECTRIC POWER COMMISSION

Sept. 14, 1922.

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MR. HALL
AND
MR. DOBSON
of the
HYDRO-ELECTRIC POWER COMMISSION

Thursday,
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CHAIRMAN: Mr. Hall, you will tell us about the inspection of installations, will you not?

MR. HALL: What led up to the Commission being authorized to take charge of inspections, was the number of accidents - one, particularly, in Gravenhurst, where a boy was badly burned. He was in bed and had a large extension cord from a socket twisted around his iron bed; the bed was next the radiator and there was a break-down in the transformer and the high-voltage current got into the house and when the boy handled the socket to turn out the light, he was badly burned. The Town of Gravenhurst owned the Plant; there was a Court action taken and the Town was sued for damages and it cost them about Ten Thousand Dollars ($10,000.).

MR. HANEY: What year was this?

MR. HALL: 1911. That was brought to the attention of the Government; investigation showed that there was no regular system of inspection anywhere throughout the Province. The only inspection done was by the C.F.U.A., who only had three offices in Ontario -- one in Toronto, one in Ottawa and one in Brantford. At that time there was nothing compulsory about having your work inspected; it was optional whether the work be inspected or not; consequently a great deal of defective work was installed. The Government finally decided that there should be some regular system of inspections and, in 1912, they amended the Power Commission Act, authorizing the Commission to appoint inspectors in each municipality throughout the Province and instructing them to prepare rules and regulations which would cover electric installation and inspection and they based that on the Power Commission Act, 2 Geo. V., 1912, Chapter 14, Section 9, Sub-section 22-A, 1 and 2, and the following powers were conferred upon the Commission:

"1. "The Commission may make regulations as to

(a) The construction, operation and inspection of the works, plant, machinery, apparatus, appliances and equipment for the transmission, distribution, connection, installation and use of electrical power or energy by municipal corporations and by any railway, street railway, electric lighting, power or transmission company or by any other company or individual, transmitting, distributing, installing or using electrical power or energy, or whose undertaking, works or premises are connected with any

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"plant for transmissions or distribution of electrical power or energy."

"(b) Requiring the appointment of inspectors by the corporation of any municipality for the purpose of enforcing the due observance of such regulations.

"2. The Commission may at any time order the installation, removal or alteration of any works, plant, machinery, apparatus, appliances or equipment, as in the opinion of the Commission may be necessary for the safety of the public or of workmen, or for the protection of property against damage by fire or otherwise."

These rules were drafted in 1913 and submitted to the different engineering bodies, jobbers, manufacturers, workers, etc., who were asked for criticisms. They were finally received and, for a start, they were considered satisfactory.

CHAIRMAN: Was there general approval of them?

MR. HALL: Yes.

CHAIRMAN: What were the character of the objections, if any?

MR. HALL: I do not recall any.

CHAIRMAN: Were they submitted to other electrical companies -- your rivals -- and did they take exception to the inspection being carried out by the Hydro? We have heard that there is some objection to the inspection being made by a rival company. Take Toronto and the Toronto Electric Light Co.

MR. HALL: The Toronto Electric Light Co. have always co-operated with us very fully.

CHAIRMAN: Suppose I were a manufacturer and in need of power; do you think the fact that the installation had been inspected by the Hydro and met with its approval would lead me to make my contract with the Hydro?

MR. HALL: No. We have heard people say "We do not use Hydro current here, what business has the Hydro coming around here inspecting?" I think it has a tendency the other way.

CHAIRMAN: There might be a tendency on the part of some of your inspectors to take exception by something done by a rival company, where the would not take exception to the same thing done by the Hydro?

MR. HALL: Supply companies do not do installation; they merely supply current.

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MR. ROSS: The Fire Underwriters were interested in the fire hazard and not in the life hazard; your inspection is meant to cover both. That is probably what started the thing.

MR. HALL: Probably.

CHAIRMAN: What do you think of the inspection being made by a Department of the Government but independent of the Hydro?

MR. HALL: I do not know that there would be any particular objection but I do not know that there would be any particular advantage. As it is now all large generating companies with distributing power plants all over the United States have their own regulations. Take New York, with the New York Edison Company, which is the main source of supply to the City; they have their own regulations. The Underwriters have their regulations. By that I mean that, when a job is passed and complies with the City requirements in every respect, it still has to be inspected by the Underwriters. The Supply Company comes last of all; they have the final say and they will not connect up with that building unless the size of service and location is satisfactory to them.

CHAIRMAN: Do the Underwriters here make any inspections?

MR. HALL: Not now.

CHAIRMAN: Do you know of any other instance, where a company competing for the sale of power is charged with the general inspection of the appliances put in by all companies -- its rivals?

MR. HALL: No, I do not. But the Hydro can make regulations which would not have any detrimental effect or hamper the use of current in any way. Clause B. requires "The appointment of inspectors by the corporation of any municipality for the purpose of enforcing the due observance of such regulations. "After this Book was found to be satisfactory by those bodies to whom it was submitted, it was distributed among the municipalities, with the request that they appoint inspectors. There was a lot of work done to persuade the municipalities to appoint inspectors but the Act did not read just right; there was nothing stating that it must be done -- merely requesting that it be done -- so, as a result, the Commission did not make very much headway in 1913. By the end of the year they had only succeeded in having one inspector appointed; that was in Ottawa. There was no provision for funds to reimburse the inspector in any way and the municipalities were discussing how they would get funds to pay the inspectors, although the Commission had assured them that they would prepare a schedule of fees by the time they had their men appointed.

CHAIRMAN: In these regulations made by the municipalities, did they vary very much?

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MR. HALL: Yes. These were rules and regulations made by the H.E.P.C., authorized by the Government and adopted as standard throughout the Province. At the time of the affair at Gravenhurst, the Commission made these regulations to protect life instead of fire and they decided that the only way to make fuses fool-proof was to make them inaccessible and they decided that the main fuse should be under seal and there was a penalty provided for the breaking of that seal by unauthorized persons. That was one of the first regulations -- to make the fuse inaccessible. There were subsequent editions issued from time to time; the first in May, 1913; the second in June, 1914; the third in the fourth in July, 1914; the fifth in July, 1916 and the sixth in September, 1919. This was the last and has been reprinted in July, 1920 and November, 1921. In the second edition, the mainchange was in connection with the Act. I think it is not necessary to refer back to that. In the amendment of the Power Commission Act, 2 Geo. V, 1912, 1 and 2, the following powers were conferred upon the Commission: (In the previous edition it said "requiring the appointment of inspectors".) They went one better in this one; they said "The municipal councils shall appoint inspectors, etc." This is the main clause to which I wish to draw your attention; "Municipal councils shall pass a by-law, etc." That was one better than the other which "required" them to. This was brought to the attention of the municipalities again and most of them were visited and the Commission endeavored to impress upon them the necessity of appointing inspectors under this new Act but did not make a success because there was nothing compulsory about it, even at that.

CHAIRMAN: What has been done?

MR. HALL: There has been very little done. They give some terrible arguments. They say "If we shall, we shall. We will appoint one some day." In 1914 there was very little done; there were no changes.

CHAIRMAN: What did they finally do?

MR. HALL: In the session of 1914, they got further legislation: "Where a municipal corporation refuses to appoint an inspector or, in the opinion of the Commission, unnecessarily delays the appointment, the Commission may make the appointment and fix the amount of salary and allowance for necessary expenses and the same shall be payable by the municipal corporation."

MR. HANEY: Suppose they refuse to pay it?

MR. HALL: Notices were then served on all municipalities that, if they did not appoint, by a certain date, the Commission would take action and, as a result, by the end of that year, we had about seventy (70) inspectors appointed and it took seventy men to do that work. If an inspector was appointed

in Hamilton, they would not permit him to go out of the City of Hamilton.

MR. HARRIS: What qualifications do they have to have?

MR. HALL: They must be journeymen-wiremen. They are examined by the Commission and their qualifications are approved by the Commission.

MR. HARRIS: Is the whole Province now under inspection?

MR. HALL: Yes.

MR. HARRIS: How is that paid for?

MR. HALL: The owner of the property pays a fee?

MR. HARRIS: Does that cover the cost?

MR. HALL: Not all the way through.

MR. HARRIS: How much would it cover?

MR. HALL: The whole of the year?

MR. HARRIS: Yes.

MR. HALL: I think there is a deficit of about eighteen thousand.

MR. HARRIS: How many inspectors did that cover?

MR. HALL: Thirty-one.

MR. HANEY: Then you have changed the system again?

MR. HALL: Yes.

MR. HARRIS: Just tell us of the System to date.

MR. HALL: It was practically impossible to get anywhere with the municipalities, but we got legislation in 1915 -- a new Act entirely. Under this new Act, "The Commission may appoint inspectors" and "may collect fees" and "may provide the payment of remuneration travelling or other expenses of the inspector, etc."

CHAIRMAN: You say there was a deficit of about Eighteen thousand dollars last year?

MR. HALL: Something like that. I would not be sure of the figure.

CHAIRMAN: Has any change been made to meet that?

MR. HALL: No.

CHAIRMAN: How is it met?

MR. HALL: By the Government -- not by the Hydro. This is a Government Department, managed by the Hydro.

CHAIRMAN: Should not the fees be increased to meet the deficit?

MR. HALL: They are thinking of that.

CHAIRMAN: I had some wiring done this year, just outside of Oakville and we could not turn the light on until the man from Hamilton came down to make the inspection. Sometimes he does not come down very often.

MR. HALL: He is there twice a week.

CHAIRMAN: What charge do you make?

MR. HALL: There is a schedule revised from time to time.

1 - 5 outlets	$1.00 plus	10¢ for permit;
6 -25 "		15¢ for each additional;
26-100 "		10¢ for each additional;
101-200 "		7¢ for each additional;
over 200 "		5¢ for each additional.

CHAIRMAN: Do you pay your inspectors by fees or a straight salary?

MR. HALL: A straight salary.

CHAIRMAN: Are there not a number of places where their full time would not be required?

MR. HALL: We have four such at the present time; at Kenora, Fort Frances, Bancroft and Cochrane. All the others give their full time.

MR. A. ROSS: Are the wiremen in this Province licensed?

MR. HALL: Not in Ontario.

MR. A. ROSS: Anyone can do wiring but it must be passed by you?

MR. HALL: Yes.

MR. A. ROSS: Suppose you had your wiremen licensed. Those men being licensed would be entitled to do the work under inspection by you. The moment a man ceased to do good work his license could be taken away. Would not that help?

MR. HALL: It would help materially. They did endeavor to get a license ordinance at the last three sessions of the Legislature but I believe it was considered too drastic.

CHAIRMAN: Suppose you know a fully competent man is doing the work; do you let him have blank forms to fill in himself--forms of permit?

CHAIRMAN: Should not the fees be increased to meet the deficit?

Mr. Kirk: They are thinking of that.

CHAIRMAN: I had been directed some time ago, just before the meeting of Parliament, to ask if any inspectors be sent out. In the meantime the whole question came down to make the inspections. Inspections is done for more than very often.

Mr. Kirk: It is there every a week.

CHAIRMAN: What amount do you mean?

Mr. Kirk: There is a monthly revised fee table in use.

1 - 5 engines	$1.00 plus 10c for each engine;
6 -40	10c for each additional;
40-100	10c for each additional;
101-200	7½ for each additional;
over 200	5 for each additional.

CHAIRMAN: Do you let your inspectors by fees or a straight salary?

Mr. Kirk: A straight salary.

CHAIRMAN: Are there not a number of places where trade will also result in injury?

Mr. Kirk: We have four boats at the present time; at Kamloops, Port Simpson, Ladysmith and Cowichan. All the others give their full time.

CHAIRMAN: Are the engineers in this division licensed?

Mr. Kirk: Yes is certain.

Mr. Cole: Assume you do write for it, could he present by proof?

Mr. Kirk: Yes.

Mr. Cole: Suppose you had your license licensed. Then you take licensed until he moved to the next place. Immediately he moved. The amount a man ceased to do work was licence would be taken away. Would not that help?

Mr. Kirk: It would help materially. They did endeavor to get a license authorized at the last Union meeting of the Provincial but I believe it was considered too trouble.

CHAIRMAN: Suppose you make a rule, something was to allow the work; suppose 1st the Board that cannot be of full in Kamloops— Terms of payment?

MR. HALL: Well, we would see the work before it was covered up. We issue what they call a "temporary permit" to the Light Company if, for any reason, our man cannot get there and, in his opinion, the man who did the job was thoroughly competent, he would issue a permit authorizing them to make connections but he would be around in a day or two. We find the majority of men doing wiring are pretty reliable.

MR. A. ROSS: Do you find much amateur wiring by the householder himself?

MR. HALL: Quite a little.

CHAIRMAN: Suppose an amateur -- like Mr. Ross -- began using, without inspection, what would you do?

MR. HALL: If he did not take out a permit, we would prosecute him.

MR. HARRIS: What is the penalty?

MR. HALL: From $10 to $50.

MR. HARRIS: Not enough in his case.

CHAIRMAN: Do you think it would be advisable to change the law and propose that no one should wire without a license?

MR. HALL: It has its advantages and disadvantages. It would have been hard for the Hydro because there were certain clauses in the Act demanding nothing but skilled mechanics to do any work.

MR. HANEY: Since 1915 have you had many accidents?

MR. HALL: Two or three.

MR. HANEY: What was the cause; bad workmanship?

MR. HALL: One woman, in a bath tub, had one of those portable heaters and reached out to turn it out and it came in contact with the bath. There was a loose terminal and she received a shock which killed her. Another case was that of a young fellow having a bath and for some reason he screwed a portable light into a bracket over the bath and put it on the basin at the foot of the bath and that made a loop in the cord. He caught the cord with his elbow and pulled the bracket into the bath and he was electrocuted.

CHAIRMAN: Is that liable to happen?

MR. HALL: With portable equipment.

CHAIRMAN: I had no idea that portable appliances were so dangerous.

MR. HALL: They got 110 in both cases. We are sure of this because we tested.

MR. HANEY: Since you have gone into the inspection work have these accidents been less frequent.

MR. HALL: Yes.

CHAIRMAN: Every week we see in the newspapers news of accidents due to defective wiring.

R.G.
MR. ROSS: Any fire they cannot account for they blame on defective wiring.

MR. HALL: The appliances you buy now are much superior; they are all examined by us.

CHAIRMAN: Do you do any circularizing among the people, pointing out these dangers.

MR. HALL: There has been more or less.

CHAIRMAN: When you buy poison it is labelled to that effect and you know it is dangerous.

J.G.
MR. ROSS: There has been a campaign carried on by the Toronto Commission to be cautious.

R.G.
MR. ROSS: If you do not use electricity you have to use that more dangerous stuff, gas.

CHAIRMAN: Not natural gas?

R.G.
MR. ROSS: Yes.

J.G.
MR. ROSS: Is not your inspection of house wiring more or less artificial? Can you give us a practical illustration of your inspection of a house from the beginning? In a house I built recently, I do not think there was a real inspection made until the walls were sealed up.

MR. HARRIS: How much interior wiring is buried in conduits now?

J.G.
MR. ROSS: Very little house building in conduit.

R.G.
MR. ROSS: I would not have a bit of conduit in my house. You do not have any trouble with short circuits in your pipes.

MR. HALL: A good job of non-concealed wire is much cheaper and I should say safer than a poor job of conduit work.

J.G.
MR. ROSS: Starting in with the wiring of a new house.

MR. HALL: A wire man makes application for inspection; he fills in the number of outlets on the form we supply. He gives the name and address and the date on which it will be ready for inspection. Our inspector is usually there on that date and the wireman is sometimes finished

and sometimes not. Our man makes an inspection of the work as far as completed and, if not completed he will go away and go back again. He will not pass until it is completed. If everything is finished, he puts his stamp on the door and dates the stamp and that is an indication that we do not visit that job again until he notifies us that it is ready for final inspection -- perhaps three months later -- when we finish up the wiring in the basement and, after that, the fixtures are installed.

MR. ROSS: You make two inspections -- one before the lathe is on and the other after everything is finished?

MR. HALL: Yes.

MR. ROSS: The first is a very rapid one as everything is standard and the men just look over the wiring. The biggest inspection would come on the fixtures, etc.

MR. HALL: Yes, that is a separate inspection altogether.

MR. HANEY: What is the total cost of operating your department?

MR. HALL: I could not tell you that; you would have to get that from the Accounting Department.

CHAIRMAN: What do your salaries range at?

MR. HALL: About $150 I should say. We have 86 employees in the department, including stenographers and clerks -- 57 inspectors and 31 in the district office. It costs about $100,000.

MR. HANEY: Their expenses are paid in addition to their salaries?

MR. ROSS: Nearly $200,000 a year for expenses and salaries.

MR. FOSTER: The present Act does not seem to contemplate that the inspection should pay for itself.

MR. ROSS: I fancy that this would cost Three or Four hundred thousand Dollars.

CHAIRMAN: Are your inspectors provided with motors?

MR. HALL: There are 26 motor cars in the department. Each man runs his own car.
We have a Rules and Regulations Committee composed of ten members of our staff and ten from the outside interests (outside our organization altogether) eight of whom are engineers.

MR. HANEY: Are you an engineer, Mr. Hall?

MR. HALL: No, I am an electrical man.

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MR. ROSS: The next two inspections -- one before the lathe is on and the other after everything is finished?

MR. HALL: Yes.

MR. ROSS: The first is a very rapid one as everything is exposed and the man just goes over the wiring. The second inspection would come on the fixtures, etc.

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MR. [illegible]: What is the total cost of operating your department?

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CHAIRMAN: What do your salaries range at?

MR. HALL: Three times, I should say. We have 45 employees in the department, including stenographers and clerks -- 27 inspectors and 18 in the district offices. It costs about $100,000.

MR. KIRBY: Their expenses are paid in addition to their salaries?

MR. ROSS: Nearly $200,000 a year for expenses and salaries.

MR. FOSTER: The reason I had come out here is to contemplate that the inspection should pay for itself.

MR. ROSS: I think that this would cost three or four hundred thousand dollars.

CHAIRMAN: Are your inspectors provided with autos?

MR. HALL: There are 20 motor cars in the department. Each man uses his own car.
We have a chief and inspections committee composed of the members of our staff and men from the outside interests (outside our organization also other) eight of whom are engineers.

MR. KIRBY: Are you an engineer, Mr. Hall?

MR. HALL: No, I am an electrical man.

MR. HANEY: What do you pay the outside men?

MR. HALL: We do not pay them.

MR. HANEY: Are they largely representative of competing Companies?

MR. HALL: Yes, they are representatives of the -

Canadian Fire Underwriters' Association,
The Fire Marshal of Ontario,
Association of Municipal Electrical Utilities,
Ontario Safety League
Electrical Supply Manufacturers' Association,
American Society of Electrical Engineers
Canadian Electrical Association,
etc.

CHAIRMAN: They represent those interests which are deeply interested and they may be very helpful to you.

MR. HALL: They are.

MR. HARRIS: Does your inspection cover a connection on the outside?

MR. HALL: Our inspection is on interior wiring only.

MR. HARRIS: No private Company can go out and put the wires in any old way they like?

MR. HALL: I suppose they could but I do not think the do. They have standards.

MR. HARRIS: Is there any possibility of any trouble occurring through their connections?

RQ.

MR. ROSS: You are responsible to the drip loops outside?

79.

MR. ROSS: Would it not be a good thing if your inspection did cover outside connections?

RQ.

MR. ROSS: It is self-protection for the Companies.

79

MR. ROSS: I have in mind a lot of loose wiring on the Highway - from the Highway to the house - your supervision does not cover that?

MR. HALL: If it was on private property our inspector would look over it.

79.

MR. ROSS: I do not think your inspection does cover it. At my place you have made no inspection.

MR. HARRIS: That is the local Commission.

79

MR. ROSS: And, with inexperienced men you do not get a high degree of efficiency. You may get a heavy wire, where you need a

MR. MILNER: Does it cut you into details more?

MR. BAIN: It is not my line.

MR. MALLET: Is many larger: Representative of Canadian Manufacturers Association

MR. MALCOLM: Yes, they are representatives of the -

Canadian Fire Underwriters' Association,
The Life Insurance Council,
Association of Canadian Electrical Utilities,
Ontario Safety League,
National Joint Committee, Industrial,
Canadian Institute of Electrical Engineers
Canadian Electrical Association.
etc.

CHAIRMAN: They represent those interests which are deeply interested and they may be very helpful to you.

MR. MALCOLM: Thank you.

MR. MALLET: Does your inspection cover a consideration of the cabinet?

MR. GILL: Our inspection is on industrial wiring only.

MR. MALLET: No private dwelling and so you did not pay the slight in any old way they like?

MR. GILL: I imagine that would be if I do not know the, do. The same rules apply.

MR. MALLET: Is there any possibility of any overall supervision between their connections?

MR. GILL: You are concerned is the life line insurance?

MR. MALLET: Would it not be a good thing if your inspection did have relative connections?

MR. GILL: It is not in keeping for the Department.

MR. MALLET: - were to make a lot of these wires on the highway - those who go among to the house - your connection does not enter there?

MR. GILL: If it has an electric property, our inspector would look material.

MR. MALLET: I do not think your inspection is near power is. Is my line the more main on inspection.

MR. GILL: That is the local inspection.

MR. MALLET: Yes, I understand that you do not get a slip during the year? You may get a card also, where you have a [illegible]

light one and vice versa. All those things could be covered with proper Hydro inspection.

Mr. Hall: All that is being considered. There are only two places in the Province not covered - Sewick's Lookout, 180 miles north of Port Arthur. It has been condemned for a number of years. They have their own water plant and it has been inspected by our Port Arthur inspector but he finds it difficult to get up there and we may appoint another inspector. At Rainy River, the Fort Frances man finds it difficult to get up there.

Mr. Harris: There was a deficit of $29,583.?

R. A. Ross: The Government pays that. I should like to know why this is not a charge to cost of power, rather than a direct charge against the Government. If you increase the efficiency of a plant, it should be charged against the plant; you are safeguarding the consumer.

R. A. Ross: It is entirely safety; it is not efficiency.

Mr. Hall: A lot of people think the inspection should be done for nothing.

Chairman: Is there much complaint about the payment of the fee?

Mr. Hall: Not very much; it is usually included in the bill of the contractor.

R. A. Ross: I do not think it should be done for nothing.

Mr. Harris: Do you know what percentage of houses in Toronto are wired?

Mr. Hall: I should say about 99%.

Mr. Harris: I am told that, in Philadelphia, only about 20% of the houses are wired.

Mr.Hall: That might be true. Gas is cheap there and electricity is dear. In Toronto, last year and thisyear, they are making considerable provision for ranges, etc., and the installations are bigger and better than in the past.

Mr. Haney: How about the old houses in the Ward, are they wired?

Mr. Hall: Yes, most of them; more particularly since the increase in the cost of gas. It is now much cheaper to buy electricity than gas.

Mr. Harris: Those figures were secured by the Electrical Association, who were making a survey of the United States to show how much new business they could look for.

R. A. Ross: You could go this far probably; no new houses are built in Toronto, without wiring.

Mr. Hall: No, nor in the whole Niagara System. Formerly they put in combination outfits - gas and electric - but it is rarely

light one and vice versa. All these things would be covered with proper Sports Inspection.

Mr. Hall: All that is being considered. There are only two places in the Dominion one around - Ashley's Bakery, 140 Queen St. West (Toronto). It has been mechanical for a number of years. They have fully one million feet and it has been inspected by our last crews inspection but is also it difficult to get in there and is any medical examiner inspection. At Molly Bloom, the Fire Marshal was there in April to get by there.

Mr. Martin: There was a decrease of 22,000.?

Mr. A. Dunn: The government pays that. I should like to know why this is not a charge to most of people, rather than a direct charge against the government. If you increase the efficiency of a plant, it should be charged against the plant, you are subsidizing the government.

Mr. A. Dunn: It is entirely safety; it is not efficiency.

Mr. Hall: A lot of people think the inspection should be done for nothing.

Chairman: I'd have much sympathy about the payment of the fees?

Mr. Hall: The very work; it is usually included in the bill of the contractor.

Mr. A. Dunn: I do not think it would be done for nothing.

Mr. Martin: Do you know what percentage of houses in Toronto are vacant?

Mr. Hall: I should say about 99%.

Mr. Martin: I am told that, in Philadelphia, only about 20% of the houses are wired.

Mr. Hall: That might be true. One is dense there and electricity is dear. In Toronto, last year and everyone, they are making considerable provision for repairs, etc., and the installations are higher and better than in the past.

Mr. Dunn: How about the fires in the week, are they worse?

Mr. Hall: Yes, most of them; some particularly since the increase in the rate of gas. It is now much cheaper to buy electricity than gas.

Mr. Martin: These figures were received by the Electrical Association, which made a survey throughout the United States to show how much the business they could last for.

Mr. A. Dunn: You could do this for nothing; we are spending our money in Toronto, without cost.

Mr. Hall: We, was in the Niagara District. Formerly they put in electrical equipment - gas and electric - but it is rarely electrical equipment - gas and electric - but it is rarely

done now.

R.A.Ross: Do you find many houses where they do not pipe for gas? Where the only supply is electric?

Mr.Hall: Yes sir.

R.A.Ross: The electric stove game has been revolutionized in the last year.

Mr. Hall: In North Toronto, there are absolutely no gas pipes being laid at all.

Chairman: Does the same fee apply all over the Province? It is the same in the City as in the rural districts?

Mr. Hall: Yes, just the same. We are revising the rules from time to time - advising as to safety in using the appliances.

R.A.Ross: You have had two instances of bath tub trouble?

Mr. Hall: Yes, sir.

Mr. Hall then withdrew.

(see ...).

A.L.Lewis: Do you think some person should be set up to act as the sole where the only supply is electrical?

Mr.Hall: Yes sir.

A.L.Lewis: The minority report goes has been crystallized in the last year.

Mr. Hall: In Perth Township, there are no facilities at the place built like it all.

C.Lemon: Does Mr. Hall know the source of the proposal. It is the same in the city as in the rural districts?

Mr. Hall: Yes, just the same. We are paying the rates here the city - entitled so to money to raise the supplies.

C.Lemon: Do Hall has his business at work for Toronto?

Mr. Hall: Yes, sir.

Mr. Hall was excused.

INTERVIEW WITH
MR. W. P. DOBSON
Engineer in charge of the Laboratory, for the testing of appliances, of the HYDRO-ELECTRIC POWER COMMISSION.

Thursday, Sept.14, 1922

Chairman: Mr. Dobson, will you tell us about the testing of appliances as carried on by your Department?

Mr. Dobson: Let me state, first, that the work in connection with the approval of appliances is just a part of the laboratory work, as you probably understand. This power is conferred under Section 37 of the Power Commission Act.

Mr. Haney: Are you operating under the Government or under the H.E.P.C.?

MR. Dobson: Under the Hydro.

Mr. Haney: Would not these figures be the cost of your department, as well as Mr. Hall's?

Mr. Dobson: I think not; we charge the manufacturer with the cost of our work. It is supposed to carry itself. We think, this year, it will although, in the past, it has shown a slight deficit which the Government provides. This has to do with the design and construction of apparatus. Mr. Hall's work has to do with the installation and he demands proper materials from the point of view of life and fire and accident hazard. In that respect it is slightly different from the Underwriters' work, which is carried on in the United States. They did not bother with the life hazard until recently but they are now rather following us.

Chairman: Those two follow each other pretty closely, do they not?

Mr. Dobson: Yes, but there might be no danger of fire, when there would be to life.

R.A.Ross: In addition to what you are describing here, you have a lot of other work? You are merely describing one section of it?

Mr. Dobson: Yes, sir.

Chairman: What is your record, Mr. Dobson? Have you been with the Hydro many years or were you engaged elsewhere before you came to them?

Mr. Dobson: I have been with the Hydro for eight years. I graduated in 1911 from the University of Toronto. I was with the City of Toronto, inspecting overhead lines and testing for them the machinery they would buy. Then I was with the University, as Research Fellow, in connection with high tension.

[illegible]

[illegible]

Chairman: Mr. Parson, will you tell us about the testing of equipment to service on by your department?

Mr. Jones: Not at date, Sir. What we make in connection with the testing of equipment is just a part of the laboratory work, as you probably understand. This power is authorized under Section 7 of the Power Commission Act.

Mr. Henry: Are you operating under the Government or under the I.C.C.?

Mr. Jones: Under the Act.

Mr. Henry: Should not there properly be the head of your department, as well as Mr. Hall?

Mr. Jones: I think, of course the membership with the year is not now. It is anybody is very liberal. We think, this year, it will diminish. In the past, it has been a great deal which the department provides. This has to do with the design and construction of apparatus. Mr. Hall's work has to do with the installation and to demand proper material from the point of view of life and fire and mechanical safety. In this respect it is slightly different from the commissions' work. Work is carried on in the Capital Estate. They did not bother with the life hazard work recently but they are now rather delighting in.

Chairman: These are follow much other pretty closely, in that part

Mr. Jones: Yes, but there might be no danger of fire, when there would be to life.

T.L.Kew: In addition to what you are describing here, you have a lot of other work. You are merely describing one section of it?

Mr. Jones: Yes, sir.

Chairman: That is your record, Mr. Jones? Have you been with the Hydro only years or was you engaged elsewhere before you came to Ottawa?

Mr. Jones: I was head of the Hydro for eight years. I graduated in 1911 from the University of Toronto. I was with the City of Toronto, designing weapons flow and testing the turbines the municipal Hydro Electric Commission. Then I was in the Dominion, as Dominion Engineer, in connection with the turbines.

R.A.Ross: You are an electrical engineer?

Mr. Dobson: Yes. Since 1914 with the H.E.P.C., in charge of the laboratory. This work began about 1917. This is carried out in cooperation with the Inspection Department in that they demand improved material and it is our duty to see that all material used in Ontario is approved. The rules provide that we can take in anything. Where unskilled operators are in charge of apparatus, these rules apply. The object is to minimize the hazard with unskilled persons. As the Underwriters began to withdraw from the field and do less inspecting, it became necessary for the Hydro to inspect apparatus and to approve the materials that went into installations. That was difficult for them because they had no testing equipment. For a time they put their stamp on certain devices - switch boxes, etc., - but not devices, usually, which were used by the general public. From time to time they would call the laboratory in and ask us to make tests and after a while it was decided to separate the work and turn it over to the laboratory so now there is a clear-cut line between the testing of materials and the inspection of installations.

R.A.Ross: You are on the same basis as the Underwriters in regard to the inspection being separate from the laboratory.

Mr. Dobson: There is a difference between our rules in Ontario and the Underwriters'. In the States they are not compulsory, whereas here it is compulsory over the whole of Ontario. The manufacturers in the States may make any sort of device and sell it and install it in insured buildings and the Underwriters' inspector may not catch it but here the inspector would catch it in his regular rounds.

Chairman: In the Province of Quebec is there a Provincial inspection?

R.A.Ross: Yes and alocal inspection but neither amount to much.

Mr. Dobson: In 1917 we started this. We took over the laboratories; formed an organization and made a small addition to the staff and to the equipment. We have six on the staff now and they carry on all that work. Notices published on January 17th, 1918, in all the papers in Ontario, called attention to the fact that, on and after three months from that date, all devices would have to be approved and, since then, we have been carrying on that work. It took some time to get the organization running in final form. We had to work out a complete routine because of the extremely large number of types of appliances on the market. A considerable number of devices, particularly heating devices were being cheaply constructed, simply to meet competition and these were quite dangerous.

Chairman: You cannot prevent them being used.

Mr.Dobson: The only recourse we have is the vigilance of our inspectors.

Chairman: You can not electrical equipment.

Mr. Dobson: Yes. Along with the G.E.C., in charge of the laboratory. This more been about 1947. This is carried out in accordance with the Commission's requirements in that they demand temporal material all is in our city in our view all material used in storage is approved. The rules provide that no one item in material. Those material requirements are in charge of experts. These rules cover. The object is to minimize the hazard with material requirements. In the Commission's opinion by different from the class one to high tension. It demands necessary for the expert to demand equipment and to separate the material that goes into installations. That was difficult for them because they had no testing equipment. For a time they put their stamp on material devices - switch boxes, - and not further. Usually, which were used by the general public. From time to time they would call the inspector in and ask him to make tests and where a while it was decided to separate the work and then it was the laboratory to set there by a clear-cut line between the testing of materials and the inspection of installation.

E.A.Dunn: The cry on the part of the Sub-contractors in regard to the inspection being separate from the laboratory.

Mr. Dobson: There is a difference between our rules in comparing the laboratory. In the United States they are a separate department. In Canada it is generally that the work of testing. The contractors in the United States can make use of both and in fact in the United States the laboratory is not used in testing and installing and the inspectors. However, we not which is not the case in Canada. The inspectors would work in all the testing centre.

Chairman: In the training of Canada is there a technical importance?

E.A.Dunn: Yes and clerical inspection but anyone cannot do work.

Mr. Dobson: In fact we started this. We took over the laboratories formed as experimental and made a small addition to the what we in the equipment. We have six on the staff now and the entry on all that work. Matters relating to Commerce Act, in all the powers in Canada, called attention to the fact that, we are to every stamp marks from this date, all devices which have to be approved and, since then, we have been engaged in this work. It took some time to get the regulations working in final form. We had to meet with a committee within Canada at the minimum large number of types of equipment on the market. A considerable number of devices, particularly heating devices were being manufactured, chiefly in small companies and there were little inspectors.

Chairman: You cannot prevent them being used.

Mr. Dobson: The only remedy we have is the violation of our inspectors

Chairman: The inspector does not come to my house after my appliances are installed.

Mr. Dobson: We catch them in the dealers' shops. If aman comes to your house and sells to you direct, we have no way of catching that.

Mr. Haney: A dealer, knowing your regulations, would not buy any article not approved by you.

Mr. Dobson: The majority accept the regulations as an assistance to them. It raises their standard and they are always glad of a high standard. Our primary reason is the protection of the public.

Chairman: If a man comes to my house and sells me something that you have not approved of, can you prosecute him?

Mr.Dobson: Yes, we adopted specifications. These provide for certain details of construction which render electrical devices safe. These specifications are contained in this volume and go fully into the construction of these devices. We have added to these since then because new devices are continually appearing. We are adding to them from time to time. We have a regular routine system of card indexing and records so that we can keep track of every device that appears on the market and we check these up against the manufacturers' stocks, from time to time, so that we are reasonably sure that we are examining all the devices. When a manufacturer wants a device approved he sends a sample to us; we make tests in the laboratories and, if there are any defects, we make a report to him calling attention to these defects and asking him to remedy them and submit another sample. Sometimes one sample is sufficient and sometimes three or four are necessary. Then we send the finished sample to the Committee who act as a check on the laboratory work.

Chairman: Do inventors go to you too?

Mr.Dobson. We have no inventors. They do come to us; it is necessary before they market their devices.

Chairman: Do you do any inventing yourselves?

Mr. Dobson: No, we like to stear clear of that.

J.A.Ross: There are a great many electrical toys imported, to be run off the house circuit. How do you catch that sort of thing?

Mr.Dobson: In the dealers' stocks or the manufacturers submit them for approval. If the manufacturers do not, we catch them in the dealers' stocks.

J.A.Ross: I see something advertised in an American magazine; I send my dollar and they send it to me?

Mr.Dobson: We take all the trade publications and we watch them and we

have the Underwriters' lists and, if they are listed, we require the manufacturer to pay us a fee, which covers the cost of our printing their name on our records; we send it to our inspectors; the inspectors then will not question that device. If it is not listed, we call their attention to the fact that it is necessary to have it tested. The manufacturer then pays us a fee and we examine it and test it. All the time we are on the watch for things of that kind.

R.A.Ross: Why do you not have the Customs Department report all importations to you?

Mr.Dobson: That would be a great assistance certainly.

Chairman: You could not expect them to hold up important shipments.

R.A.Ross: No, merely notification. I was very disappointed a few years ago I bought some two thousand electric stoves and there was no heat from them at all.

Mr.Dobson: We do not go into the question of efficiency in this work; merely safety.

Mr.Haney: In connection with lamps, you go into efficiency, do you not?

Mr.Dobson: Yes, there is very little hazard in a lamp but, for our own protection, we test them for efficiency but that is another section of the laboratory. The Committee I referred to is composed of the same members as Mr.Hall's Committee.

Chairman: What is the Ontario Safety League?

Mr.Dobson: The Ontario SAfety League is an association of a great many bodies - the Manufacturers Association; Boards of Trade - a great many of the public bodies have associated themselves together in a safety campaign. "Safety First". They cooperate with us and are of very great assistance to us. If we want anything of an electrical nature sent out they will include it in one of their publigations and we save the expense of a separate publication of our own.

R.A.Ross: That is not a Government Department?

Mr.Dobson: No, I believe not; although, the Government, I believe, contribute to it.

Chairman: Where is their office?

Mr.Dobson: Their office, I believe, is in the Royal Bank Building. This Committee passes on our reports and, if there is any adverse criticism - these men are electrical engineers, skilled in the work - then we must make the necessary changes and satisfy them that it is alright. If they are fully satisfied, it goes to the Commission and is formally

Lord Chairman: Have you not been the Indian Department report all important to you?

Mr. Jones: That would be a great assistance certainly.

Chairman: You could get report then by July on important shipments.

Mr. Jones: Yes, merely additions. I was very disappointed a few months ago I bought some the Canadian electric stoves and there was no heat from them at all.

Mr. Jones: Is it not in the practice of Canadian to this merely matter.

Mr. Jones: In connection with Lamps, you do know anything, do you not?

Mr. Dobson: Yes. Lamp is very little bought in a lump sum, for our purchasing, we take from the catalogue and the lamp dealer or the library. Now Canadian I refer to is required if for more members of the Committee.

Chairman: What is the lamp in Public Lamps?

Mr. Dobson: The Canadian Lamp is an imitation of a great world lamp - the Mazda Lamp manufacturing Canada or Canada - a great many of the public lamps are manufactured Canadian Lamp is a merely copyright. "Mazda Lamp". Can compete with us and use of very great amount of to us. It is most amazing to me electrical lamps that they will include it in our of this publication and as sure. The success of a separate publication, or are.

Mr. Jones: That is not a Government Department?

Mr. Dobson: No, I believe not; although, the Government, I believe, contribute to it.

Chairman: Where is that office?

Mr. Dobson: Main street. I think, is in the Royal Bank Building. This information comes on our reports and, if there is any separate publication - Some are electrical engineers, affiliated in the work - some we want some for Government, and merely when they it is simply. If they are fully matured, it goes to the Government and is formally

approved and a card is printed and these cards are sent to our inspectors, and the inspectors in other Provinces, from Coast to Coast. That takes care of the approval work itself. Testing is carried on on one sample only, which is supposed to represent the line and, in order to assure ourselves that the product is continually the same as the sample, we follow up production and, if there are any criticisms, our inspector goes to the Superintendent and, if the quality is falling down, we withdraw our approval until he remedies the defect. In some cases we get our samples in the open market, or go to the factory and endeavor to keep continuously in touch with all their products to keep continuously up to the standard. In the different Provinces we give them our cards and manufacturers going to the different districts can say that they have Hydro approval. The inspectors usually accept it, although they are not bound to. If a device is made in the States and approved by the Underwriters' laboratories, we list it on our records for the cost of a fee for listing. That saves the manufacturer the cost of additional testing and gives the inspection office here information as to American goods which have been approved and they are on the same basis as goods manufactured here. To date we have issued about 700 approval cards since 1918.

Chairman: Each one for a distinct device or for a line of devices?

Mr. Dobson: Yes, it would cover a line of switch boxes, for instance, and there might be fifty different ones for that one card.

J.A.Ross: Would it cover the brand?

Mr. Dobson: Yes, Hot Point irons and toasters would go on one card.

J.A.Ross: What would be the penalty if a manufacturer got below standard?

Mr. Dobson: We could withdraw his approval and the Act provides a fine of from $10 to $50.

J.A.Ross: That is hardly large enough to deter a manufacturer if he has a large output.

Mr. Dobson: The withdrawal of the approval is a certain deterrent but we rarely have occasion to do that. The great majority of manufacturers aim to meet the standard but do not do much better than that. I would like to say one or two words in connection with Mr. Gregory's remarks; I think the fatal accidents in connection with electrical devices are infinitesimal as compared with automobiles. We try to educate the people in every way possible in regard to the dangers and try to get them to use appliances in the right way. The inspection cannot cover every individual device; defective appliances may get out.

Chairman: When you are on the highway you look out for automobiles but when you get into your home you expect you are safe but you fellows go into their homes and kill them there. What do you do in the way of education?

Mr. Dobson: We use our bulletin - "The Hydro Bulletin" and the Ontario Safety League. The Bulletin reaches all the municipalities and, through them, we try to work it but we have been trying to make this inspection pay its own way and, I think, in a couple of years, we will be able to spend a little more money on that educational campaign, although at present we have not very much money for that work.

R.A.Ross: The people who were injured - were they sound physically?

Mr.Dobson: I believe the evidence was that they were.

R.A.Ross: I know that we did kill a man with 110 volts in Montreal but he was unsound physically.

Mr.Dobson: We have had five cases where, in every case, death was brought about by 110 volts or less. A boy swimming in the Humber a few years ago encountered a motor grounded in the River and used to pump water. This motor became defective, the first indication of it was the electrocution of this boy swimming toward the pipes. When he got about ten feet from it he sank; another boy jumped in to save him and he was badly shocked but got out; a third boy jumped in and he also was shocked but escaped. We made a survey of it and, in places, got 90 volts but, where he was he could not have got more than 15 volts.

Chairman: What is the voltage in the ordinary house, Mr. Ross?

R.A.Ross: 110 volts.

J.A.Ross: What is the amount of your appropriation?

Mr. Dobson: We have no appropriation. We charge fees to the manufacturer, if there is a deficit there is a provision _____

Chairman: You make no appropriation to the Ontario Safety League?

Mr. Dobson: No, as far as I know, that is gratis.

Chairman: Have you considered going into the manufacture of electrical appliances yourselves?

Mr.Dobson: No, as far as I know, we have not considered that.

Chairman: The jobbers were advised that you had that intention. Do you think it would be advisable to go in as competitors against them?

Mr.Dobson: I should not like to express an opinion. We, in the laboratory, merely act as arbiters, we have nothing to do with the sale.

Chairman: What appliances does the Hydro sell now?

Mr.Dobson: Lamps, toasters and house hold devices of all kinds.

Chairman: The buy from the manufacturer and pass them on?

Mr.Dobson: They just buy as a central purchasing agent; the Commission acts as purchasing agent.

J.A.Ross: You act purely as a jobber? You do not manufacture anything?

Mr.Dobson: We do manufacture high tension appliances for our own use only.

Mr.Haney: Where are these manufactured?

Mr.Dobson: In the same building with the laboratory.

Chairman: Do you find much trouble in the matter of lamps? Is there pressure brought to bear to bring in lamps which you think are not what they ought to be?

Mr.Dobson: We have little trouble from the safety point of view. They are all of given dimensions. A couple of years ago we got some lamps from Holland, which were improperly insulated. We notified the jobber and he withdrew them.

J.A.Ross: You said you did not pass on the efficiency. What department of the H.E.P.C. passes on the efficiency of the lamps?

Mr.Dobson: If we buy for our own use, we test them for efficiency.

Chairman: Do you give a stamp for that?

Mr.Dobson: We do when we have specifications for lamps. We certify that all our lamps are bought to these specifications and conform to them.

Chairman: Do you state what makes conform to these specifications.

Mr.Dobson: Yes, although as a rule we make a contract with a particular company for a year and all of our lamps are supplied by that Company?

Chairman: What is the total staff of your laboratory?

Mr.Dobson: Forty-one; several are out on field work.

Chairman: Is there any special qualification required? Do they pass any examination?

Mr.Dobson: No examination. Fifteen are graduates from various universities; they do the higher class of research work and the others do the testing work.

Chairman: Have applicants from the Ryder will meet

Mr. Jones: Jones, Jackson and Jones, all lawyers of all kinds.

Chairman: Can all from the Ryder-Lafayette and meet then not

Mr. Brown: Then just for us a central processing center for Lafayette with an industrial agent.

Mr. Adams: Can all parking be a lobbyist. Is it not monopolistic anyhow?

Mr. Cohen: Do do manufacture this carpet regulation for our own use.

Mr. Kirby: Where are these manufacturers?

Mr. Nelson: In the room adjoining with the laboratory.

Chairman: Do you find much difficulty in the matter of labor? Is there pressure brought to bear to force in large order you think are not what they ought to be?

Mr. Jones: We have little trouble from the usually point of view. They are all of Union Organizations. A supply of power are on our side longer than anything, which were improperly obtained. We installed the labor and be without them.

Mr. Adams: You mean you did not pass on the situation. Was result what of the N.R.A.? Always on the efficiency of the labor?

Mr. Jones: If we lay for old our men, we find them for efficiency.

Chairman: Do you give a bonus for that?

Mr. Jones: We do meet on some specifications for labor. We satisfy that all our labor are bound to these specifications and unions fixtures.

Chairman: Do you show what makes varies in these specifications.

Mr. Brown: Yes, although we do rule we make a contract with a particular company for a year but all of our labor are covered by that contract.

Chairman: What is the total staff of your laboratory?

Mr. Jones: Forty-one; several are not on full men.

Chairman: Is there any special qualifications required? Do they pass any examination?

Mr. Jones: No examination. Fifteen are graduates from various universities. They do the higher class of research work and the others do the testing work.

Chairman: Are the universities giving more attention to that work?

Mr.Dobson: Yes, they are.

Chairman: Are they giving it special attention at our University here?

Mr.Dobson: Yes, they have now a special course in what they call "Engineering Physics", providing men who are especially proficient in mathematics and physics and receive other advanced training which would fit them for research work in pure physics.

Chairman: Does that give them any degree?

Mr.Dobson: Yes, the reglar Master's degree.

Chairman: Is there anything further, Mr. Dobson?

Mr.Dobson: ¥ I think that is all I had in mind unless there are any details you care to ask about.

J.A.Ross: It is proposed that we visit the laboratory.

Mr.Dobson: If you would give me a day's notice, I could put on one or two tests.

Mr.Dobson then withdrew.

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